ABSTRACT

The invention relates to a communication system comprising a modulator, encoder, decoder, demodulator, and a data input source, which employs an improved modulation technique by effectively utilizing the conjugate signal space in Digital Pulse Position Modulation (DPPM) format. This technique utilizes multiple the DPPM formats, whereby M data bits are conveyed by splitting them into sets of k bits. The split data are encoded to have forward and conjugate pulse positions for transmission over a transmission channel, which are discriminated and combined into a M-bit digital output. The system and method achieve superior characteristics in terms of data rate, channel utilization and coding efficiency.